

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) An amplifier ~~A amplifier~~ of a dynamically balanced pneumatic relay type, the amplifier comprising:

a balance plug adapted to generate a balancing force proportional to an input signal pressure, the balancing force operable to oppose an end load force acting on the amplifier;

a supply plug positioned proximate to and on top of the balance plug;

a bead chain ~~connecting~~ adapted to couple the balance plug ~~and~~ to the supply plug; and

a vent plug ~~positioned on~~ coupled to the top of the supply plug,

wherein the ~~relay integrated with the~~ balance plug, the supply plug, and the vent plug ~~avoids~~ are integrated and adapted to avoid a flow deadband in which a signal pressure generated by the amplifier changes without corresponding output flow, ~~thereby providing both a reliable steady state relay performance and a consistent dynamic response, and wherein the integrated balance plug, supply plug, and vent plug provide a steady state output flow proportional to the input signal pressure.~~

2. (Original) The amplifier of claim 1 further comprising a baffle positioned on top of the vent plug for counteracting a back pressure created during a venting process.

3. (Currently Amended) A current-to-pneumatic converter used in an electro pneumatic positioner, the converter having a flexure-nozzle arrangement to produce a signal pressure proportional to a given electrical current, the converter comprising:

a coil adapted to supply a variable electro-magnetic effect within the converter

proportional to current supplied to the coil;

a flat strip made of magnetic material located in proximity to a nozzle, a portion of the flat strip integrated into a molded spring support, the flat strip having a thickness, wherein the thickness of the flat strip is locally reduced in an area not integrated into the molded spring support; and

a flow regulator having a flat spring securing a plug in a seat within the regulator, the flow regulator proximate to the flat strip of magnetic material,

wherein the regulator maintains a near constant fluid flow feeding the nozzle, and wherein the electro-magnetic effect from the coil is operable to act on the flat strip of magnetic material to move the plug to allow a pneumatic pressure proportional to the supply current.

4. (Currently Amended) A current-to-pneumatic converter of an electropneumatic positioner, the converter comprising:

a cantilevered flexure integrally secured to a molded spring ~~support; support,~~

a first bias spring positioned on a first side of the flexure; and

a second bias spring positioned on a second side of the flexure,

wherein the flexure, the molded spring support, and the bias springs are centered around a nozzle of the converter, wherein a thickness of the flexure is locally reduced in an area not integrated into the molded spring support, ~~thereby providing a predetermined temperature and vibration resistance for the converter.~~

5. (New) A method for generating an output flow proportional to a signal pressure, the method comprising:

receiving an input signal pressure into a rely-type amplifier, the amplifier comprising:

a balance plug adapted to generate a balancing force proportional to the input signal pressure;

a supply plug coupled to the balance plug by a bead chain, the supply plug adapted to allow a portion of the input signal pressure to enter the amplifier; and

a vent plug proximate to the supply plug, the vent plug adapted to vent high output pressures;

generating an output pressure proportional to the input signal pressure.

6. (New) The method of claim 5, further comprising the step of coupling a baffle to the vent plug, the baffle adapted to counteract back pressure generated by the output flow.